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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,288	04/19/2004	Chien-Hua Chen	200308991-1	9906

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EXAMINER

NGUYEN, HA T

ART UNIT PAPER NUMBER

2812

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/826,288

Applicant(s)

CHEN ET AL.

Examiner

Ha T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) _____ is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

HA NGUYEN
PRIMARY EXAMINER

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Notice to applicant

1. Applicants' Amendment and Response to the Office Action mailed 12-16-5 has been entered and made of record .

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103 and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-8, 11-15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speakman (USPN 6503831).

Referring to Figs. 20 and related text, Speakman discloses [Re claim 1] a method of making a microelectromechanical system device comprising : releasing a micromover component 1302, note that this step has to be performed for the micromover to be as shown; and coating the micromover component with a first self-aligned film after releasing the micromover component; [Re claim 2] wherein the step of coating comprises selectively depositing a coating composition only on the micromover component. (see col. 44, lines 23-29) ; [Re claims 3-4] wherein the film comprises at least one of a polymer, PMMA and an epoxy photoresist; wherein

the polymer is thermoplastic (see col. 44, lines 23-52). But it fails to disclose expressly all the limitations in a same process. A person of ordinary skill is motivated to modify Speakman to obtain a MEMS using the disclosed deposition method.

[Re claim 5] Speakman also discloses wherein the polymer is thermoset (see col. 31, lines 11-17);

[Re claim 6] wherein coating the micromover component comprises adjusting a coating parameter to control the film thickness; [Re claim 7] wherein adjusting a coating parameter comprises selecting a solid to solvent ratio; [Re claim 8] wherein adjusting a coating parameter comprises selecting an amount of film material to deposit (see col. 2, lines 30-34, and col. 17, line 45-col. 18, line 34);

[Re claim 11] coating the micromover component with a second self-aligned film; [Re claim 12] wherein the second self-aligned film comprises a different material from the first self-aligned film (see col. 6, lines 21-34).

[Re claims 13-15] Speakman fails to disclose expressly wherein one of the self-aligned films comprises a thermoplastic polymer and the other comprises a thermoset polymer; wherein the first self-aligned film and the second self-aligned film have different hardness; wherein the first self-aligned film and the second self-aligned film have different glass transition temperatures. However, these would have been obvious in light of Speakman, which discloses a large variety of materials. The choice of the two materials depends on the desired characteristics of a specific application.

[Re claim 18] Speakman discloses wherein the first self-aligned film is adapted for data storage, anti-wear, anti-reflective, desiccant or an anti-stiction (see col. 11, lines 1-44).

Therefore, it would have been obvious to use the teaching of Speakman to obtain the invention as specified in claims 1-8, 11-15, and 18.

4. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speakman, as applied above, in view of Yao et al. (USPN 6617657, hereinafter "Yao").

Speakman discloses substantially the limitations of claims 9-10, as shown above. It also discloses treating a surface of the micromover component prior to coating and applying an adhesion promoter to the micromover component (see col. 18, line 47-col. 19, line 3).

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But it fails to disclose expressly the use of plasma treatment.

However, the missing limitation is well known in the art because Yao discloses this feature (See col. 5, lines 1-15).

A person of ordinary skill is motivated to modify Speakman with Yao to obtain clean surface with better adhesive property by a clean and well-proven method.

Therefore, it would have been obvious to combine Speakman with Yao to obtain the invention as specified in claims 9-10.

5. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speakman, as applied above, in view of Jacobson et al. (USPN 6587408, hereinafter "Jacobson"), .

Speakman discloses substantially the limitations of claims 16-17, as shown above.

But it fails to disclose expressly [Re claim 1 6] bonding a wafer having at least one contact probe or AFM tip opposite the self-aligned film; [Re claim 1 7] fabricating a contact atomic resolution storage device.

However, the missing limitations are well known in the art because Jacobson discloses these features (See Figs.3C-3F and col. 8, lines 5-23).

A person of ordinary skill is motivated to modify Speakman with Jacobson to obtain high-density data storage.

Therefore, it would have been obvious to combine Speakman with Jacobson to obtain the invention as specified in claims 16-17.

Response to Amendment

6. In view of applicants' cancellation of the claims, the rejection of claims 37-40 under 35 U.S.C. 103 is rendered moot.

Applicant's arguments with regard to the rejections under 35 U.S.C. 103 of the remaining claims have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

Applicants mainly argued that the applied references do not teach all the limitations of the claims because Speakman does not disclose, teach, suggest or otherwise provide motivation for "coating the micromover component with a first self-aligned film after releasing the

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micromover component". The examiner disagrees, even though Speakman does not expressly disclose when the thin film 1300 is deposited, it does imply that it is formed after the micromover is released because to be called a MEMS the system has to function as a MEMS, before being released the micromover cannot function as a MEMS (see col. 44, lines 22-28). Besides, in Speakman there is no importance associated to the timing of the formation of the thin film layer 1300. It would have been obvious for a person of ordinary skills in the art to form this thin film after releasing the micromover component when this better fits the processing flow of the device manufacturing process.

Therefore, the applied references to teach or make obvious all the limitations of the rejected claims 1-16.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

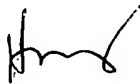
A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha T. Nguyen whose telephone number is (571) 272-1678. The examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM, except the first Friday of each bi-week. The telephone number for Wednesday is (703) 560-0528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Lebentritt, can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ha Nguyen
Primary Examiner
05- 08 - 06